vent or modify IH following oral exposure and, in one study, serum containing a mixture of globulin and the IH agent produced no disease when given parenterally. The neutralization of the virus before injection may have been critical to this result. For IH post-exposure prophylaxis, an adult should receive 2 ml and a child 1 ml. Current evidence suggests that globulin provides poor, if any, protection against parenteral exposure to the SH (Australia antigen-positive) agent. Antibody to the Australia antigen has not been detected in the commercial globulin.

Screening blood donors by Au antigen testing will probably reduce transfusion hepatitis about 30 percent. Rigid donor selection would be more effective than Au antigen testing.

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Platelet Typing

Platelet typing has developed rapidly during the past two years with the introduction and international standardization of microcomplement fixation methods. Almost all the histocompatibility antigens known on lymphocytes have been identified on platelets. Of the four additional platelet specific antigen systems identified only the Pl^A and Pl^E have been implicated in transfusion and neonatal thrombocytopenias. The sera from a large proportion of persons receiving more than ten transfusions, and of sera of women in late pregnancy have antibodies, often multispecific, against histocompatibility antigens on platelets and lymphocytes. Antibodies for platelet antigen systems other than HL-A are less common. Production of thrombocytopenia and rapid destruction of transfused platelets by these isoantibodies have been clearly demonstrated; while transfused "matched" platelets have a considerably longer survival in the recipient. Present practical considerations limit the clinical application of platelet typing. Entirely compatible donors, except for family members, are relatively rare; however, complete compatibility may not be necessary. The present ability to store viable platelets for a few days makes routine use of "matched" platelets more feasible than heretofore. Current development of more sensitive and practical methods will considerably expand the diagnostic and therapeutic capabilities in thrombocytopenic disorders of immune origin.

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Prenatal Diagnosis of Genetic Disease

Cells obtained from amniotic fluid and cultured by tissue-culture methods can be used for diagnosing some genetic diseases in utero. The sex of the fetus and the chromosome constitution can be readily ascertained by this method. It is also possible to diagnose certain inborn errors of metabolism by testing the cultured cells for enzyme deficiencies or accumulated abnormal substances.

Amniotic fluid can be obtained by transabdominal amniocentesis; it is generally recommended that 14 to 16 weeks gestation is the optimum time.

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Herpes Virus

Renewed interest in herpes viruses as human pathogens stems from their possible roles in cancer and in infectious mononucleosis.

Herpes simplex virus occurs in at least two serological types, I and II. The former produces the common "cold sore." The latter produces cervical, vulvar and sometimes penile acute lesions.

Various investigators have shown that 70 to 100 percent of women with invasive cervical cancer have antibodies to the herpes II virus, whereas only 30 to 95 percent of patients with atypia or in situ carcinoma have such antibodies. In general controls show a distinctly lower percentage.

It is possible that the correlation of herpes virus and cervical cancer is simply another example of the higher incidence of venereal disease in women who have cervical cancer. In a study based in New Zealand there was little difference between three groups including controls, in situ, and invasive cancer.

The EB (Epstein-Burkitt) virus is a herpes virus first observed in cells cultured from Burkitt's tumors. Patients with Burkitt's lymphoma tend to have much higher viral antibody titers than do controls. A rise in titer occurs in previously negative patients in whom infectious mononucleosis develops. High titers also occur with naso-pharyngeal carcinoma. Thus far there appears to be a strong case for the EB virus as the etiologic agent in infectious mononucleosis. The case for oncogenicity is almost as strong although it is difficult to exclude the possibility that the virus simply infects and grows preferentially in some malignant or transformed lymphoid cells.

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Diagnosis of Death Due to Insulin Overdosage

The proof that insulin overdosage has caused death is difficult. The half-life of insulin (12 minutes) precludes the estimate of elevated levels of insulin in circulation and tissues except in rare situations when an overwhelming amount of insulin has been injected into the patient's blood stream shortly before death. In such a situation, it is important that specimens from highly vascular organs be stored in the frozen state. The insulin can be extracted from these specimens with acid alcohol. Also, it is important that control tissues be obtained and treated in the same fashion for comparison. It is important to survey the body for injection sites. The tissue around the injection site should be excised and comparable tissue from the contralateral side of the body should be taken for comparison. Again, the insulin may be extracted and the amount estimated by radio-immunoassay and bioassay. The first proof of murder by insulin was obtained in this fashion in England in 1957. Important history and ancillary laboratory information which is essential in putting together such a diagnosis, includes the blood glucose levels, cerebral spinal glucose levels, and glucose levels from any other biological fluid. It is important to note whether the patient had been exposed to a long period of fasting and alcoholism before his death, since profound hypoglycemic episodes can ensue. Also important is a very thorough examination of the pancreas to rule out any pancreatic tumors which could be the cause of hypoglycemic episodes, convulsion and death. Particularly difficult is the estimation of insulin overdosage in individuals who have been treated with insulin. In such situations, circulating levels of antibodies have developed which combine with insulin and result in variable estimates of circulating insulin level. Overdosage in this case can best be estimated by excision of the injection site. Levels of insulin at an injection site which are significantly greater than the total daily dose taken should be highly suggestive of an overdose.

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Complications of Drug Abuse

Drug abuse is best defined as the use of drugs in such a way as to cause harm. Diseases associated with drug abuse are becoming common in most communities and must be considered in the differential diagnosis of almost any sick person.